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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/804,506	03/12/2001	Masahiko Shimizu	FUSA 18.444	1979

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EXAMINER	
BAYARD, EMMANUEL	
ART UNIT	PAPER NUMBER
2631	

DATE MAILED: 05/10/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/804,506	SHIMIZU ET AL.	
	Examiner	Art Unit	
	Emmanuel Bayard	2631	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *27 December 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-7* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-7* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

This is in response to amendment filed on 12/27/04 in which claims 1-7 are pending. The applicant's arguments have been fully considered but they are moot based on the new ground of rejection.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yellin U.S. patent No 6,628,701 B2 in view of Wang et al U.S. Patent No 6,266,365 B1.

As per claim 1, Yellin discloses a synchronization tracking circuit for synchronizing the phase of a dispreading code sequence on a receiving side to the phase of a spreading code sequence on a transmitting side, comprising: A rake receiver for performing synchronization tracking (see figs. 1, 3b elements 12, 12' and col.1, lines 43-50 and col.2, lines 1-7 and col.7, lines 53-67); an interference processor for estimating an interference component (see figs. 1-2 element 20 and col.4, lines 43-67 and col.5, lines 64-67) inflicted by another path upon a prescribed path of interest among multiple paths; wherein said rake receiver executes detector for causing the phase of the de-spreading code sequence on the receiving side to be synchronized with and track the phase of the spreading code on the transmitting side based upon a signal obtained by subtracting is the same as the claimed (eliminating) the interference

component (see fig.3b element 64 and col.7, lines 23-25), which is inflicted from the other path, from the de-spread signal obtained by de-spreading a received signal (see col.1, lines 43-50 and col.2, lines 1-7 and col.7, lines 35-67).

However Yellin does not teach a DLL control circuit for causing the phase of the de-spreading code sequence on the receiving side to be synchronized with and track the phase of the spreading code on the transmitting side.

Wang et al teaches a DLL control circuit for causing the phase of the de-spreading code sequence on the receiving side to be synchronized with and track the phase of the spreading code on the transmitting side (see fig.2 element 22 and col.1, lines 33-42) and col.4, lines 53-60).

It would have been obvious to one of ordinary skill in the art to implement the teaching of Wang into Yellin as to keep close track of phase fluctuations of the received signal from that path and adjust its respective locally generated spreading waveform to follow the fluctuations as taught by Wang (see col.1, lines 35-40).

As per claim 2, the circuit of Yellin does teach estimating the interference component inflicted by other path (see col.7, lines 23-25) and impulse response (see col.6, lines 15-30) of a transceiver

As per claims 3 and 6-7, Yellin does teach a despreader for dispreading the receive signal (see fig.3b element 50 and col.6, line 67); a subtractor is the same as the claimed (interference component elimination unit) (see fig.3b element 64) for eliminating component from the despread signal. Furthermore implement the phase control signal generator of Wang (see col.4, lines 50-53) for controlling the despreading code

sequence would have been obvious to one skilled in the art as to keep close track of phase fluctuations of the received signal from that path and adjust its respective locally generated spreading waveform to follow the fluctuations as taught by Wang (see col.1, lines 35-40).

As per claim 4, Yellin teaches eliminating interference component from path-to-path delay time difference (see fig.3b element 60 and col.7, lines 7-25).

As per claim 5, Yellin teaches an impulse response generator for storing impulse responses (see col.5, lines 8-55) values discretely and outputting an impulse response value that corresponds to an inter-path delay time difference wherein said impulse response generator approximates an impulse response value by ½ of a peak value and includes a storage unit for storing (see fig.2, elements 30, 34 and col.5, lines 8-55 and col.6, lines 23-60)) correspondence between time and n discretely and arithmetic for obtaining n of a time that conforms to the inter-path delay time difference and calculating an impulse response upon shifting the peak value by n bits (see col.5, line 65-67 and col.6, lines 1-25).

Conclusion

3. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Popovic et al U.S. Patent No 6,370,397 B1 teaches a search window delay.

Saito U.S. Patent No 6,757,346 B2 teaches a code division multiplex.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Emmanuel Bayard whose telephone number is 571 272

3016. The examiner can normally be reached on Monday-Friday (7:Am-4:30PM) Alternate Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mohammed Ghayour can be reached on 571 272 3021. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Emmanuel Bayard
Primary Examiner
Art Unit 2631

5/7/05

EMMANUEL BAYARD
PRIMARY EXAMINER